REMARKS

Claims 1-29 are in this Application and are presented for reconsideration. By this Amendment, Applicants have amended the independent claims 1, 19, 24, and 29 to clarify the important combination of features which define over the prior art of record. Dependent claims 20-23 have been amended to correspond with the clarification made in the independent claim 19.

The claims as amended now further clarify that a substantial amount of ammonia-related family of contaminants as previously disclosed in the dependent claims 3, 5, and 27 are directed to rejects instead of permeates. Since the prior art of record does not anticipate the dependent claims 3, 5, and 27 for the most part, the prior art of record also does not anticipate the independent claim as well. Further, since the amendment only presents the features which were already presented, namely features related to ammonia-related family of contaminants, no new issue has been raised by this Amendment. Thus, it is Applicants' position that this amendment should be entered.

By this Amendment, the Applicants have amended several claims to overcome the Examiner's rejections and respectfully makes assertions for overcoming the rejections of the outstanding Office Action dated May 24, 2006 in the following paragraphs.

Claim Rejections- 35 U.S.C. §102(b)

Claims 1, 2, 6-24 and 28, including the independent claims 1, 19, and 24 have been rejected as anticipated by U.S. Patent No. 4,574,049 to Pittner (the "Pittner '049" reference, hereinafter). The prior art as a whole including the Pittner '049 reference neither teaches nor suggests the present invention as claimed. The Pittner '049 reference discloses a chemical reverse osmosis water purification system and process in which the inlet of a second reverse osmosis unit

is coupled in series to the product water outlet of a first reverse osmosis unit. Water to be purified is conditioned by an ion exchange resin type water softener and pumped to the inlet of the first reverse osmosis unit. The product from the first reverse osmosis unit is treated with a chemical treatment agent, such as a sodium hydroxide solution, upstream of the inlet to the second reverse osmosis unit. The brine from the brine outlet of the second reverse osmosis unit is recirculated to the water flow line upstream of the first reverse osmosis unit.

The independent claims 1, 19, 24, and 29 as amended clarifies that a substantial amount of nitrogen-containing contaminants flow into reject instead of permeate. Applicants have reviewed the Pittner '049 reference, and nowhere in the Pittner '049 reference does it disclose filtration involving ammonia or amines contaminants, or more specifically, any nitrogen-containing compounds. Thus, an argument that the Pittner '049 reference anticipates the present invention as claimed is not supported by the Pittner '049 disclosure. In other words, the claims clarify that a substantial amount of ammonia-family contaminants are redirected to the rejects. This signifies that the method deals with efficiently filtering contaminants dealing with ammonia-family compounds as suggested in dependent claims 3-5. Thus, it is Applicants' position that the independent claims 1, 19, 24 and 29 as amended are not anticipated by the Pittner '049 reference.

Claims 1, 2, 6-10, 12-22 and 24-29 have been rejected by the U.S. Patent No. 5,925,255 to Mukhopadhyay (the "Mukhopadhyay '255" reference, hereinafter). It is Applicants' position that the prior art as a whole including the Mukhopadhyay '255 reference neither teaches nor suggests the present invention as claimed. The Mukhopadhyay '255 reference discloses a process for treatment of water via membrane separation equipment. According to the Mukhopadhyay '255 reference, hardness and non-hydroxide alkalinity are removed from feedwaters to very low levels, preferably by simultaneous removal in a weak acid action ion exchange resin. Then,

ionization of sparingly ionizable components in the feedwater is substantially accomplished by increasing the pH of the feedwater preferably up to about pH 10.5, or higher. In this manner, species such as silica become highly ionized, and (a) their rejection by the membrane separation process is significantly increased, and (b) their solubility in the reject stream from the membrane process is significantly increased.

The Mukhopadhyay '255 reference, which also refers to the Pittner '049 reference, is an improvement to the Pittner '049 reference and suffers from the same deficiency as does the Pittner '049 reference. That is, the Mukhopadhyay '255 reference neither discloses or suggests a system for removal of ammonia or amines family of contaminants. This can be seen clearly as none of the tables in the Mukhopadhyay '255 reference disclose either ammonia or amines as the type of contaminants targeted by the method disclosed in the Mukhopadhyay '255 reference. Therefore, the reasoning for taking the position that the Pittner '049 reference does not anticipate nor suggest the present invention as claimed, applies mutatis mutandis to the Mukhopadhyay '255 reference as well. Therefore, Applicants respectfully submit that the current amendments obviate this grounds of rejection and reconsideration and withdrawal are respectfully requested.

Claims 1-7, 10-14, 19 and 20 have been rejected by the U.S. Patent No. 6,054,050 to Dyke (the "Dyke '050" reference, hereinafter). Unlike the other references cited above, the Dyke '050 reference does disclose a filtration system for ammonia and amines. However, it is Applicants' position that the Dyke '050 reference does not anticipate nor does it suggest the present invention as claimed either. The Dyke '050 reference discloses a process for removing soluble and insoluble organic and inorganic contaminants from refinery wastewater streams employing ultra-filtration and reverse osmosis. Specifically, the method discloses that:

> *" ...**ammonia** present in the reverse osmosis **permeate 32** can exist as ammonia **gas**. The hydrocarbons and ammonia gas can be easily*

stripped from the reverse osmosis permeate 32 by, for example, ***nitrogen or steam.*** *" (Col. 5, Ll. 63-67).*

Thus, it is clear that the method according to the present invention differs from the method of the Dyke '050 reference at least in three different ways. First, the method of the Dyke '050 reference discloses that the ammonia-type family is still present in the reverse permeate 32 in the reverse osmosis feedwater 28 as follows:

"The concentration of non-ionized, soluble organic and inorganic contaminants still present in the reverse osmosis permeate 32 can vary widely, e.g., the concentration can range from about 5% in the case of xylene to about ***100% in the case of ammonia*** *of the concentration in the reverse osmosis feedwater 28."* (Col. 5, Ll. 14-20, Emphasis added).

Second, the Dyke '050 reference does not disclose that the ammonia-type family is forcibly flow-regulated by pressure, i.e., the contaminants are in liquid form as in the present invention. Instead, the Dyke '050 reference discloses that the ammonia-type is in gaseous form as follows:

"Since the pH adjusted reverse osmosis feedwater 28 passing through the reverse osmosis membrane 30 is at a high pH level, i.e., greater than 10.0, the ammonia present in the reverse osmosis permeate 32 can exist as ***ammonia gas****. The hydrocarbons and* ***ammonia gas*** *can be easily stripped from the reverse osmosis permeate 32 by, for example, nitrogen or steam."* (Col. 5, Ll. 61-67, Emphasis added).

Third, and most importantly, to remove the ammonia still present in the permeate, the ammonia removal of the Dyke '050 reference requires an evaporator distillate 38 as follows:

"Optionally, the reverse osmosis permeate 32 can be combined with ***evaporator distillate 38*** *together with the crystallizer water 44 and passed through a hydrocarbon recovery unit (HRU) 48 to remove any hydrocarbons, e.g., the low molecular weight soluble organic contaminants, and ammonia still present in the three streams to provide a recovered refinery wastewater stream 50."* (Col. 5, Ll. 55-61, Emphasis added).

Having an evaporator would increase the cost of the invention process to an extent that the benefit derived from the present invention would be minimal. Thus, the Dyke '050 reference neither anticipates nor suggests the present invention as claimed.

Claim Rejections- 35 U.S.C. §103(a)

Claim 23 has been rejected by Mukhopadhyay '255 reference in view of the Dyke '050 reference. Because none of the references above contain all of the elements, nor their equivalents, of the independent claim 19, claim 23 can not be made obvious by the combination of the above references.

In view of the above amendments and remarks, Applicants respectfully submit that the present application, including claims 1-29 is now in condition for allowance. Favorable action thereon is respectfully requested.

Since this Amendment is in response to the Office Action dated May 24, 2006, Applicants believe that no additional fee is due. However, if the Patent Office determines that a fee is due, please charge any deficiencies or credit any overpayment in fees to deposit account no.

08-2461.

Should the Examiner have any questions with respect to the above amendments and remarks, the Examiner is respectfully requested to contact Applicants' undersigned counsel at the telephone number below.

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